ROSTOVTSEV, S. I. CONTRIBUTIONS TO THE KNOWLEDGE OF THE FALSE MILDEWS (PERONOSPORACEAE.)

Bulletin of the Moscow Agricultural Institute, 1903.
Part 1. 24 pp., 20 figures.[1] (Russian.)

A REVIEW BY ERNST A. BESSEY.

In October, 1902, the author received specimens of cucumber leaves from Tver government, which were found to be suffering with a form of what has been known as *Peronospora cubensis*. He reviews some of the literature of this species and points out that of the two species parasitic on *Cucurbitaceae*, *Plasmopara australis* is a typical *Plasmopara*, both as regards conidiophore and germination of conidia, and differs from *P. cubensis*. The latter possesses conidiophores like *Peronospora*. The conidia, however, have an apical papilla and germinate sometimes with the production of zoospores, thus showing the characters of *Plasmopara*. He proposes to found for this species a new genus to be known as *Pseudoperonospora* with the one species *P. cubensis*. The chief characteristics of this genus are possession of a conidiophore like *Peronosport* and conidia like *Plasmopara*. The Russian fungus he distinguishes from the typical species as the variety *Tweriensis*. The differences lie in the appearance of the spots and more especially in the fact that in the former the conidiophores are single, in the latter, two to six together.[2] The author finds that the conidia are borne on very slender, very short stalks separating them from the ends of the conidiophores. These same pedicels occur also in various species of *Peronospora, Plasmopara, Bremia, Phytophthora* and *Cystopora* studied by the author. They remain unstained by iodin and sulfuric acid or by chloriodid of zinc, while the conidia and conidiophore are stained blue. These pedicels dissolve in water, setting the conidia free. Germination of the conidia occurs sometimes by germ tubes, sometimes by the formation of zoospores.

Immature oospores are found in old dead leaves late in the autumn.

A few months latter the author published in Germany[1] a similar article giving again the description of this fungus and

[1] The work is entitled in Russian: Rostovtsev, S. I. Materiali k poznaniu lozhnomutchnerosnykh gribov (Peronosporaceae). Otdyel'nye ottiski iz "Izvyestii Moskovskavo Syel'skokhozya-istvennavo Instituta" kn. 1 zo 1903 god.

[2] See below for further discussion of this proposed variety.

[1] Rostowzew, S. G. Beiträge zur Kenntnis der Peronosporeen. Flora oder Allgemeine Botanische Zeitung, 92[4]. 405–430. 1 fig. pl. 11–13. Oct. 1903.

proposing again the new genus *Pseudoperonospora*. This will naturally be the publication to be cited, for the description in the article just reviewed was entirely in Russian. Clinton[2] with, it seems, not sufficient ground for the action, refuses to recognize this name and raises to generic rank the subgenus *Peronoplasmopara,* created by Berlese[3] for this fungus. Although it is to be regretted that Rostovtsev did not accept this subgeneric name and raise it to generic rank, there is no nomenclatorial law making a generic name invalid in case the subgeneric name is ignored, so that the name *Pseudoperonospora* will have to stand. Clinton points out, with evident correctness, that the differences upon which the variety *Tweriensis* was based occur also in America, depending upon the age and host of the fungus, so that this variety can not be considered as valid.

It is of great interest that Rostovtsev finds that the disease has been present in Russia from time immemorial, the effects being recognized (drying of leaves, and early death of the vine) but the cause being unknown until 1902.

U. S. Department of Agriculture.

[2] Clinton, G. P. Downy Mildew, or Blight, *Peronoplasmopara cubensis* (B. & C.), Clint., of Musk Melons and Cucumbers. Report of the Conn. Agr. Expt. Sta. for 1904. Part IV. Report of the Station Botanist: 329–362, pl. 29–31. 1904.

[3] Berlese, A. N. Saggio di une Monografia delle Peronosporaceae. Revista di Patologia Vegetale. 9:1-126. 1902.

NOTES FROM MYCOLOGICAL LITERATURE XVII.

W. A. KELLERMAN.

THE MYCOLOGICAL ARTICLES IN ANNALES MYCOLOGICI, Vol. II, No. 5, September 1904, are as follows: Holway, E. W. D., Mexican Uredineae; Bubák, Prof. Dr. Fr., Neue oder kritische Pilze; Rick, J., Ueber einige auf Bambusarten wachsende tropische Hypocreaceen; Rick, Fungi austro-americani exs. Fasc, I; Cavara, Fr., A propos d'une remarque de Mr. le Dr. Franz v. Höhnel; Petri, L., Sul valore diagnostico del capillizio nel genere "Tylostoma" Pers.; Salmon, Ernest S., On the identity of Ovulariopsis Patouillard & Hariot with the conidial stage of Phyllactinia Lev.

ZEITSCHRIFT FUER PFLANZENKRANKHEITEN, XIV BAND, 1904, contains the following which mycologists will find of interest, namely, C. G. Björkenheim, Beiträge zur Kenntnis des Pilzes in den Wurzelanschwellungen von Alnus incana (hierzu Tafel